

What is claimed is:

1. A adaptive switched virtual circuit (SVC) caching method for use within a telecommunications network, the method comprising:

defining a delay budget;

monitoring a processing load of the telecommunications network; and

adaptively determining a number of preestablished SVCs based upon the delay budget and the monitored processing load,

wherein when the number of SVCs is preestablished, the preestablishment facilitates processing telephone calls in the network within the delay budget by eliminating call processing for new SVC establishment when a new call request occurs.

2. A adaptive switched virtual circuit (SVC) caching method for use within a telecommunications network, the method comprising:

defining a delay budget;

monitoring a processing load of the telecommunications network; and

adaptively determining a cache duration based upon the delay budget and the monitored processing load,

wherein when an SVC is cached for the cache duration, the caching facilitates processing telephone calls in the network within the delay budget by eliminating call processing for new SVC establishment when a new call request to the destination occurs during the cache.

3. The method of claim 2, in which the processing load comprises a call setup delay and the cache duration is inversely related to the call setup delay.

4. The method of claim 3, in which the monitoring further comprises measuring the time elapsed between a User Network Interface (UNI) SETUP message and a connect message to estimate the call setup delay.

5. A adaptive switched virtual circuit (SVC) caching method for use within a telecommunications network, the method comprising:

defining a delay budget;

monitoring a processing load of the telecommunications network; and

adaptively determining a cache duration based upon the delay budget and the monitored processing load;

establishing an SVC to a destination in response to a telephone call to the destination;

caching the SVC for the cache duration after the telephone call terminates;

reusing the cached SVC when a new call request to the destination occurs during the cache; and

releasing the cached SVC after the cache duration when no new call request to the destination occurs during the cache,

wherein the cached SVC facilitates processing telephone calls in the network within the delay budget by eliminating call processing for new SVC establishment when the new call request to the destination occurs during the cache.

6. The method of claim 5, in which the processing load comprises a call setup delay and the cache duration is inversely related to the call setup delay.

7. The method of claim 6, in which the monitoring further comprises measuring the time between transmitting an initial setup message from an originating T-IWF and receiving a final connect message at the originating T-IWF.

8. A telecommunications system for adaptive switched virtual circuit (SVC) caching, the telecommunications system having a predefined delay budget, the system comprising:

an ATM network having a processing load;

at least one SVC within the network, the SVC being established to a destination in response to a telephone call to the destination;

a plurality of T-IWFs that estimates the processing load, each T-IWF adaptively determining a cache duration based upon the predefined delay budget and the estimated processing load; and

a CS-IWF,

wherein the SVC is cached for the cache duration after the telephone call terminates, the cached SVC being reused when a new call request to the destination occurs during the cache, the cached SVC being released after the cache duration when no new call request to the destination occurs during the cache, and

wherein the cached SVC facilitates processing telephone calls in the ATM network within the delay budget by eliminating call processing for new SVC establishment when the new call request to the destination occurs during the cache.

9. The system of claim 8, in which the processing load comprises a call setup delay and the cache duration is inversely related to the call setup delay.

10. The system of claim 9, in which the plurality of T-IWFs further comprise an originating T-IWF, the originating T-IWF measuring the call setup delay by measuring the time between transmitting an initial setup message from the originating T-IWF and receiving a final connect message at the originating T-IWF.

11. The system of claim 8 in which each SVC has a unique identifier, and an originating T-IWF notifies a terminating T-IWF of the unique identifier.

12. The system of claim 11, in which the notification occurs using Media Gateway Control Protocol.

13. A computer readable medium storing a program for adaptive switched virtual circuit (SVC) caching within a telecommunications network, the medium comprising:

a monitoring source code segment that monitors a processing load of the telecommunications network; and

a source code segment that adaptively determines a number of preestablished SVCs based upon a predefined delay budget and the monitored processing load,

wherein when the number of SVCs is preestablished, the preestablishment facilitates processing telephone calls in the network within the delay budget by eliminating call processing for new SVC establishment when a new call request occurs.

14. A computer readable medium storing a program for adaptive switched virtual circuit (SVC) caching within a telecommunications network, the method comprising:

a monitoring source code segment that monitors a processing load of the telecommunications network; and

a source code segment that adaptively determines a cache duration based upon a predefined delay budget and the monitored processing load,

wherein when an SVC is cached for the cache duration, the caching facilitates processing telephone calls in the network within the delay budget by eliminating call processing for new SVC establishment when a new call request to the destination occurs during the cache.

15. The medium of claim 14, in which the processing load comprises a call setup delay and the cache duration is inversely related to the call setup delay.